

Scientific-methodical approaches to the formation of risk groups of oncological screening

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Abstract

Modern multidisciplinary screening examinations can both detect a tumor, and establish the diagnosis of a chronic disease changing further into cancer (pre-cancer stage). To study the state of the health of employees, we applied the social and hygienic method of investigation by questionnaire survey. The questionnaire included three parts: socio-demographic, medical-biological, and sanitary-hygienic. Each group of risk has been assessed: group 1 - cancer-specific symptoms presented; group 2 - cancer-alarming symptoms presented; group 3 - cancer-developing factors presented; group 4 - no symptoms or factors detected. The first group of risk of development of oncologic pathology of any organ has been identified in 49% of the surveyed. Localization such as "breast" and "prostate" are dominant. Processing of all risk groups of cancer pathology of each organ has provided integral evaluation giving a comprehensive description of the health of local population. The risk group 3 is of highest importance in the final structure of the risk groups - 48%. Based on the results of the regression analysis, the formation of a group of cancer risk is significantly influenced by age, general experience, professional experience, occupation, work in highly dust conditions, inhalation of hazardous substances, work related to the production of rubber. A mathematical model of malignancy risk prediction in employees of machinery production has been developed.

Keywords

Machine-building production, Oncological screening, Risk group